

Revised Strategies to Improve Teacher Professional Development

STEM Task Force Study Group on Professional Development

September 14, 2007

Charge to the Study Group

To revise and refine the strategies needed to implement the Statewide STEM Task Force's recommendation to "implement international best practices in professional development programs for P-16 STEM teachers to increase the intensity, duration and rigor of professional development."

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STEM Professional Development Study Group Suggested Strategies
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Recommendation 3: Implement international best practices in professional development programs for P-16 STEM teachers to increase the intensity, duration and rigor of professional development.

1. Convene a professional development oversight committee to review current professional development in mathematics and science and make specific recommendations centered on the needs of teachers across Kentucky.

Objectives (to achieve the strategy)	Accountability & Assessment (Responsible Person/Agency)	Timeline for Completion	Funding Source/ Estimated Cost
A. Establish a multi-agency oversight committee that addresses professional development policies and issues policies in mathematics and science across Kentucky.	KDE/EPsB/CPE	2008	One full-time staff support and travel
B. Strengthen collaboration and communication among KDE, K-12 districts, and higher education focused on professional development issues in mathematics and science.	Oversight committee	Ongoing	One full-time staff support and travel
C. Oversee the availability of ample opportunities for high quality mathematics and science professional development.	Oversight committee	Ongoing	One full-time staff support and travel

2. Structure a high quality mathematics and science professional development program that addresses teachers' content and pedagogy needs.

Objectives (to achieve the strategy)	Accountability & Assessment (Responsible Person/Agency)	Timeline for Completion	Funding Source/ Estimated Cost
A. Plan and oversee a statewide needs assessment for new and current mathematics and science teachers to assess content knowledge and pedagogical needs for high quality teaching.	Oversight committee with KDE/EPsB/CPE	2008	Considerable direct costs in staffing
B. Ensure that professional development focusing on teachers' needs is available across Kentucky through face-to-face or on-line delivery.	Oversight committee with KDE/EPsB/CPE	Ongoing program	Considerable direct costs in staffing
C. Provide professional development assessment results to school and district administrators.	Oversight committee with KDE/EPsB/CPE	Ongoing program	Considerable direct costs in staffing
D. Match professional development with teachers' assessed needs in content and pedagogy.	Oversight committee with KDE/EPsB/CPE	Ongoing program	Considerable direct costs in staffing
E. Present options and encourage the use of incentives such as release time, reimbursement for course work, and stipends for participating in high quality professional development.	Oversight committee with KDE/EPsB/CPE	Ongoing program	Considerable direct costs in staffing
F. Use the needs assessments to inform university administrators and faculty regarding recommended changes in teacher preparation.	Oversight committee with KDE/EPsB/CPE	Ongoing program	Considerable direct costs in staffing

3. Develop a data collection, tracking, reporting and evaluation system for mathematics and science professional development for Kentucky teachers.

Objectives (to achieve the strategy)	Accountability & Assessment (Responsible Person/Agency)	Timeline for Completion	Funding Source/ Estimated Cost
A. Describe professional development opportunities and delivery systems in mathematics and science including how well these systems meet the needs of teachers, their cost, timing and availability.	Oversight committee with KDE/EPsB/CPE	2009	P-20 Data Warehouse/ KIDS, considerable direct costs
B. Track participation level and related teacher demographics such as years of experience, courses being taught, and certification.	Oversight committee with KDE/EPsB/CPE	2009	Considerable direct costs in staffing
C. Evaluate the impact of professional development programs on teacher practices and student learning.	Oversight committee with KDE/EPsB/CPE	2009	Considerable direct costs in staffing
D. Create a Professional Learning Opportunities clearinghouse for teachers and administrators that describes and evaluates available professional development options.	Oversight committee with KDE/EPsB/CPE	2009	Considerable direct costs in staffing

4. Establish networks of mathematics and science specialists and/or coaches to provide professional development in local schools and districts across Kentucky.

Objectives (to achieve the strategy)	Accountability & Assessment (Responsible Person/Agency)	Timeline for Completion	Funding Source/ Estimated Cost
A. Create a certification or endorsement for P-5 mathematics and/or science specialists whose career goal is to focus on mathematics and science and provide content and pedagogical expertise at the classroom and school level.	EPsB/Oversight committee	2009	Indirect costs only
B. Provide incentives and/or resources to support teachers who serve as coaches or mentors.	Oversight committee with KDE/EPsB/CPE	Ongoing	Indirect and/or direct costs
C. Encourage innovative models or strategies for sharing mathematics or science coaches across districts.	Oversight committee with KDE/EPsB/CPE	Ongoing	Indirect costs only